Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): An electron beam physical vapor deposition coating apparatus comprising:

a coating chamber ~~operable~~ at an elevated temperature and a first subatmospheric pressure;

a hood defining a coating region within the coating chamber;

means for introducing gases into the coating region within the hood;

an electron beam gun for projecting an electron beam into the coating region;

a first aperture in a wall of the coating chamber through which the electron beam passes before entering ~~must pass to enter~~ the coating chamber; ~~region;~~

a second aperture in a wall of the hood through which the electron beam passes to enter the coating region from the coating chamber, the second aperture being sized so that the introducing means maintains the coating region

at a second subatmospheric pressure greater than the first subatmospheric pressure within the coating chamber; and

a second chamber within the coating chamber and enclosing the first aperture so as to separate the first aperture from the coating chamber and the coating region, such that the electron beam must pass through the first aperture and the second chamber before passing through the coating chamber, passing through the second aperture, and entering ~~the coating region; and~~

~~means for maintaining the second chamber at a pressure lower than~~ the coating region.

Claims 2-39 (canceled)

Claim 40 (currently amended): An electron beam physical vapor deposition coating apparatus according to claim 1, wherein the second chamber has a first wall portion attached to the wall of the coating chamber.

Claim 41 (currently amended): An electron beam physical vapor deposition coating apparatus according to claim 40, wherein ~~the wall portion of~~ the second chamber has a second wall portion with a third ~~a second~~ aperture

through which the electron beam exits the second chamber before entering the coating chamber. ~~region.~~

Claim 42 (currently amended): An electron beam physical vapor deposition coating apparatus according to claim 1, wherein the second aperture has been formed by cutting the hood with the electron beam so that the second aperture has a cross-section corresponding to the electron beam. ~~further comprising a hood within the coating chamber and defining the coating region within the coating chamber, and a second aperture in a wall of the hood through which the electron beam enters the coating region.~~

Claim 43 (currently amended): An electron beam physical vapor deposition coating apparatus according to claim 41, wherein the second wall portion of the second chamber is ~~claim 42, wherein the second chamber has a wall portion~~ unattached to the hood.

Claim 44 (currently amended): An electron beam physical vapor deposition coating apparatus according to claim 41, wherein the second chamber consists of the first and second wall portions and the second aperture thereof. ~~claim 43, wherein the wall portion of the second chamber has a third~~

~~aperture through which the electron beam exits the second chamber before passing through the second aperture in the hood and entering the coating region.~~

Claim 45 (currently amended): An electron beam physical vapor deposition coating apparatus according to claim 1, ~~claim 42,~~ wherein the second chamber is formed by the wall of the coating chamber, side walls attached to the wall of the coating chamber, and a lower wall facing ~~parallel to~~ the wall of the hood.

Claim 46 (currently amended): An electron beam physical vapor deposition coating apparatus according to claim 45, wherein ~~the hood is unattached to~~ the second chamber has a single aperture that is defined in the lower wall and through which the electron beam travels. ~~so as to be capable of movement within the coating chamber independent of the second chamber.~~

Claim 47 (currently amended): An electron beam physical vapor deposition coating apparatus comprising:

a coating chamber at a first subatmospheric pressure;

a hood defining a coating region within the coating chamber, the

coating region containing a coating material, the coating region being operable at an elevated temperature and a second subatmospheric pressure greater than the first subatmospheric pressure within the coating chamber;

means for introducing gases into the coating region within the hood;

an electron beam gun ~~for~~ projecting an electron beam into the coating region and onto the coating material, the electron beam gun being operable to melt the coating material and to evaporate molten coating material;

means for supporting an article in the coating region so that vapors of the coating material deposit on the article;

a first aperture in a wall of the coating chamber through which the electron beam passes before entering ~~must pass to enter~~ the coating chamber; ~~region;~~

a second aperture in a wall of the hood through which the electron beam passes before entering ~~enters~~ the coating region, the second aperture having been formed by cutting the hood with the electron beam so that the second aperture has a cross-section corresponding to the electron beam to assist the introducing means in maintaining the coating region at the second subatmospheric pressure;

a second chamber between the wall of the coating chamber and the wall of the hood, the second chamber enclosing the first aperture so as to

separate the first aperture from the coating chamber and the coating region;

and means for maintaining the second chamber at a pressure lower than the first subatmospheric pressure within the coating region.

Claim 48 (previously presented): An electron beam physical vapor deposition coating apparatus according to claim 47, wherein the second chamber has a wall portion attached to the wall of the coating chamber.

Claim 49 (currently amended): An electron beam physical vapor deposition coating apparatus according to claim 47, wherein the second chamber has a wall portion facing, separated from, and unattached to the hood.

Claim 50 (previously presented): An electron beam physical vapor deposition coating apparatus according to claim 49, wherein the wall portion of the second chamber has a third aperture through which the electron beam exits the second chamber before passing through the second aperture in the wall of the hood and entering the coating region.

Claim 51 (currently amended): An electron beam physical vapor

deposition coating apparatus according to claim 47, wherein the second chamber is formed by the wall of the coating chamber, side walls attached to the wall of the coating chamber, and a lower wall facing, separated from, and unattached to the wall of the hood. ~~parallel to the wall of the hood, the hood being unattached to the second chamber so as to be capable of movement within the coating chamber independent of the second chamber.~~

Claim 52 (previously presented): An electron beam physical vapor deposition coating apparatus according to claim 51, wherein the lower wall of the second chamber has a third aperture through which the electron beam exits the second chamber before passing through the second aperture in the wall of the hood and entering the coating region.